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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/663,125

Filing Date: September 16, 2003

Appellant(s): KAMINSKY ET AL.

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David Kaminsky  
John Lake  
David Ogle  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 11/12/2008 appealing from the Office action mailed 6/11/2008.

**(1) *Real Party in Interest***

A statement identifying by name the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) *Status of Claims***

The statement of the status of claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Claimed Subject Matter***

The summary of claimed subject matter contained in the brief is correct.

**(6) *Grounds of Rejection to be Reviewed on Appeal***

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) *Claims Appendix***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) *Evidence Relied Upon***

20020143929	Maltz et al	10-2002
6,272,543	Nozawa et al	8-2001

**(9) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

1. This action is responsive to the amendment and remarks filed on February 20, 2008.
2. Claims 6-17 are presented for examination and claims 1-5 are withdrawn from consideration.
3. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

*Objection*

4. Claim 12-17 are objected to because according to MPEP 608.01, antecedent basis for the terms appearing in the claims, while an applicant is not limited to the nomenclature used in the

application as filed, he or she should make appropriate amendment of the specification whenever this nomenclature is departed from by amendment of the claims so as to have clear support or antecedent basis in the specification for the new terms appearing in the claims. Applicant will be required to make appropriate amendment to the description to provide clear support or antecedent basis for the terms appearing in the claims provided no new matter is introduced.

5. The objection as stated above requires applicant to make appropriate amendment to the description because the specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: “machine readable storage”.

*Claim Rejections – 35 USC 103*

6. Claims 6-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maltz et al, U.S. Patent Application Publication 2002/0143929 (hereinafter Maltz) in view of Nozawa et al, U.S. Patent 6,272,543 (hereinafter Nozawa).

7. Maltz and Nozawa were cited in the previous office action.

8. As per claims 6 and 12, Maltz teaches the invention substantially as claimed comprising: detecting a node in the cluster which requires re-configuration ([0068]-[0069] and [0073]) (detecting scheduled collection/transmission of statistics);

identifying a workload hosted by said node ([0068]) (generating statistical summaries based on collected traffic information and storing the statistic in repositories (i.e. database)) and retrieving a set of configuration parameters associated with said workload ([0070], [0076], [0033]) (retrieved the data stored in repositories as input);

producing a new generation of configuration parameters based upon said retrieved set using a computing process ([0033] and [0125]) (create configuration based on retrieved data stored in repositories using an algorithm); and,

reconfiguring said node with selected ones of said new generation of configuration parameters ([0033] and [0036]).

9. Although Maltz teaches using genetic computing process ([0049]), however Maltz does not specifically teach producing new generation of configuration parameter using a genetic computing processing. Nozawa teaches producing new generation of configuration parameter using a genetic computing processing (col. 6, line 66-col. 7, line 2; col. 7, lines 26-30; col. 8, lines 19-25).

10. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Maltz and Nozawa because Nozawa's teaching of genetic computing process would enhance the configuration of Maltz's system by allowing genetic computing process to search for optimal configuration for the system.

11. As per claims 7 and 13, Maltz and Nozawa teach the invention substantially as claimed in claims 6 and 12 above. Maltz further teach wherein said detecting step comprises the step of detecting at least one condition selected from the group consisting of a node crash, node idleness, node underperformance, and a change in workload hosted in said node ([0073]).

12. As per claims 8 and 14, Maltz and Nozawa teach the invention substantially as claimed in claims 6 and 12 above. Nozawa further teach wherein said producing step comprises the steps of: performing a crossover operation for said configuration parameters in said retrieved set (col. 7, lines 6-16); and, mutating at least one element of said configuration parameters in said retrieved set to produce the new generation of configuration parameters (col. 7, lines 17-30).

13. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Maltz and Nozawa for the same reason as claims 6 and 12 above.

14. As per claims 9 and 15, Maltz and Nozawa teach the invention substantially as claimed in claims 8 and 14 above. Maltz and Nozawa further teach wherein said reconfiguring step comprises the steps of: randomly selecting a new configuration from among said new generation of configuration parameters (see Nozawa, col. 7, lines 6-9, 20-22; see Maltz, [0126]); determining whether said randomly selected new configuration is viable (see Maltz, [0126]); and, reconfiguring said node with said randomly selected new configuration only if said new configuration is determined to be viable (see Maltz, [0127]).

15. As per claims 10 and 16, Maltz and Nozawa teach the invention substantially as claimed in claims 9 and 15 above. Maltz further teach comprising the step of writing said randomly selected new configuration to a knowledge base if said randomly selected new configuration is determined to be viable ([0127], [0064], [0037], [0046]) (after configuring the node with viable configuration ([0127], [0064])), the optimization process repeats ([0037], [0046]), which including writing to repositories (430, fig. 4; [0037]).

16. As per claims 11 and 17, Maltz and Nozawa teach the invention substantially as claimed in claims 9 and 15 above. Maltz and Nozawa further teach comprising: measuring node performance for said reconfigured node (see Maltz, [0068],[0071],[0073], see Nozawa, col. 6, lines 58-61); and, if said reconfigured node fails to meet baseline objectives for performance for said reconfigured node (see Nozawa, col. 6, lines 58-63), selecting the new configuration for said node (see Maltz, [0126]; see Nozawa, col. 6, lines 63-64) and performing said determining and reconfiguring steps for said selected new configuration ([0126], [0127]).

#### ***(10) Response to Argument***

The examiner summarizes the various points raised by the appellant and addresses replies individually.

Appellant argued that:

- (1) The rejection of claims 7 and 13 under the second paragraph of 35 U.S.C. 112 should be withdrawn.

- (2) Examiner fails to clearly designate the teaching of Maltz for teaching the claimed "detecting a node in the cluster which requires re-configuration."
- (3) Maltz fails to teach "retrieving a set of configuration parameters associated with said workload".
- (4) Maltz fails to teach producing a new generation of configuration parameters based upon the retrieved set of configuration parameters.
- (5) Examiner fails to establish that one having ordinary skill in the art would have arrived at the claimed invention based upon the combination of Maltz and Nozawa.

**In reply** to argument (1), Applicant's arguments with respect to the rejection of claims 7 and 13 under the second paragraph of 35 U.S.C. 112 has been fully considered and are persuasive. The rejection of claims 7 and 13 under the second paragraph of 35 U.S.C. 112 has been withdrawn.

**In reply** to argument (2), as stated in the office action mailed on 6/11/08, according to page 13, lines 10-18 of applicant's specification states "... the cluster of nodes can be monitored to identify when a change in configuration is appropriate. Changes in configuration can be appropriate when performance objectives are not met, when a node fails, when a node has become idle, when the workload has significantly changed, when a certain amount of time has passed, or upon the occurrence of any other suitable criteria" (i.e., detection of a node which

*requires* re-configuration). In light of the specification, a node that requires reconfiguration is identified upon the occurrence of any suitable criteria. Similarly, Maltz teaches detecting a network element (node) which need scheduled collection/transmission of statistics (i.e., part of the reconfiguration process) upon an occurrence of criteria (e.g., certain amount of time has passed (i.e., schedule) or measured traffic is less than the mean traffic level (i.e., upon an occurrence of criteria)) ([0033], [0068]-[0069] and [0073] ). Furthermore, Maltz teaches that the collected statistic (e.g., traffic data) is processed by a TMS Algorithm to determine the optimal network configurations for the network element (i.e., node) ([0036]) in a cluster (e.g., 300, fig. 3). This means the TMS Algorithm must detect (i.e., determines) that a node (i.e., network element) in the cluster (e.g., 300 fig. 3) needs to optimize the node's configuration based upon the processing of the collected traffic data/statistics in order to output the optimal network configuration for the node (requires re-configuration).

**In reply** to argument (3), Maltz teaches data/statistics stored in the TMS Statistic Repository 610 is used as an input to the TMS algorithm for generating optimal network configuration ([0076] and [0033]). Maltz further teach the data/statistics stored is associated with traffic information collected from the network element, such as traffic information that is collected by measuring the number of bytes that flow out of a line card interface each second([0068]) (i.e., workload). Noted that the term "workload" is interpreted as amount of work produced (the number of bytes that flow out of a line card interface) in a specific time period (e.g., each second). This means the traffic data/statistics such as measurement of the number of bytes that flow out of a line card interface each second (i.e., set of parameter

associated with the workload) must be retrieved from the TMS Statistic Repository 610 in order to be inputted to the TMS Algorithm as parameter for generating optimal network configurations (i.e., set of parameter associated with the workload retrieved for generating configuration, hence “the set of parameter associated with the workload” is considered as “a set of *configuration parameter*”). Furthermore, Maltz teaches the generated optimal network configuration based on the retrieved traffic data/statistics collected from the network element (i.e., set of configuration parameters associated workload) is sent back to the network element for re-configuration ([0127]). This means the network element is retrieving the set of optimal network configuration generated from the traffic data/statistics (i.e., retrieving a set of configuration parameters associated with the workload) in order to be used for re-configuration of the network element (re-configuration of the node).

**In reply** to argument (4), as explained in reply to argument (3) above, Maltz teaches the TMS Algorithm generates and outputs optimal network configuration (i.e., producing new generation of configuration parameters) based upon retrieving of traffic data/statistics from the TMS Statistic repository ([0036]). This means the traffic data/statistics such as measurement of the number of bytes that flow out of a line card interface each second retrieved from the repository are used as input parameters for generating optimal network configurations. Thus, Maltz teaches producing a new generation of configuration parameters (generating and outputting optimal network configurations) based upon the retrieved set of configuration parameters (traffic data/statistics retrieved from the repository for used as input to generate configuration, i.e., “configuration parameters”).

**In reply** to argument (5), Maltz teaches using a TMS Algorithm for generating optimal network configuration ([0036]). Maltz further teach other algorithms such as genetic algorithm are suitable ([0049]). Maltz does not explicitly teach producing new generation of configuration parameter using a genetic computing processing. Nozawa teaches producing new generation of configuration parameter as optimization solution using a genetic computing processing (col. 6, line 66-col. 7, line 2; col. 7, lines 26-30; col. 8, lines 19-25). Because both Maltz and Nozawa teaches algorithm for generating parameter as optimization solution, it would have been obvious to one skilled in the art to substitute one algorithm for the other to achieve the predictable result of generating optimization solution (i.e., examiner determines obviousness using the rationale of "simple substitution of one known, equivalent element for another to obtain predictable results" under Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*, 550 U.S.-, 82 USPQ2d 1385 ).

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

**(12) Conclusion**

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Philip C Lee/

Primary Examiner, Art Unit 2452

Conferees:

/Bunjob Jaroenchonwanit/

Supervisory Patent Examiner, Art Unit 2456

/Kenny S Lin/  
Primary Examiner, Art Unit 2452